



## **Parcel C Remedial Action**



# **Project Update for Parcel C Hunters Point Naval Shipyard San Francisco, California**

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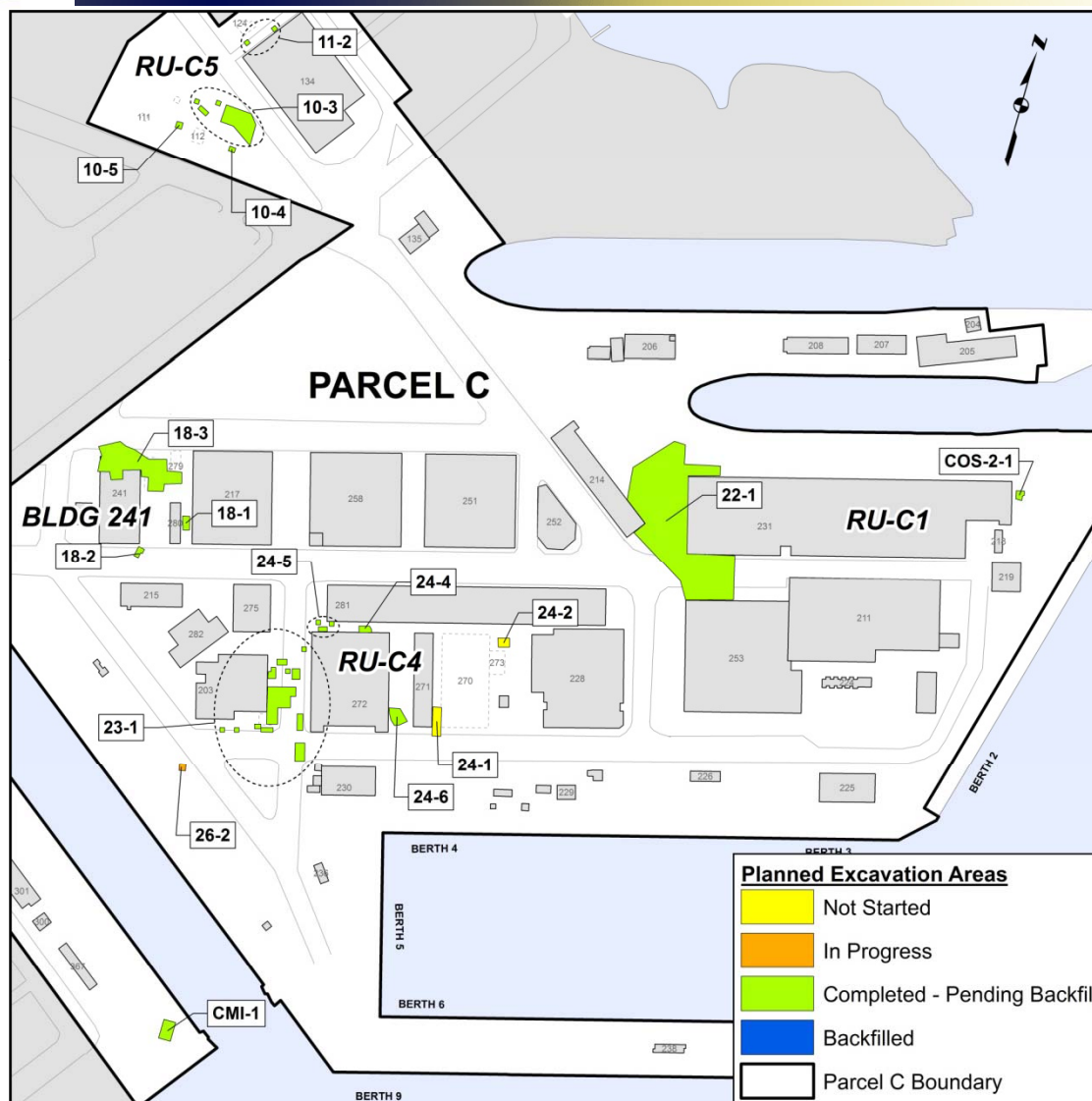
## Outline Parcel C Remedial Action



- Overview Status Map
- Excavation Status Highlights
  - RU-C5
  - RU-C1
  - RU-C4
  - Building 241 Area
- Groundwater remedy – Summary
- Zinc Plume C1-5
- What's Next
- Schedule



# Excavation Progress



Approximately 18,460 bcy have been excavated and stockpiled (Oct 17, 2013). A total of 22,300 bcy is anticipated to be removed (not including step-outs and/or benching).



## RU-C5



- 100% of excavations within RU-C5 have been excavated and confirmation sampled
- 1,868 bank cubic yards (bcy) have been excavated (planned 1,059 bcy), including benching for 10-3, 10-4, 10-5 and 11-2, and volumes for step-out locations at 10-3, 10-5, and 11-2. Data for 10-3, 10-4 and 10-5 shown during September BCT meeting. No step-outs were needed for 10-4
- Confirmation sample data received for all excavations within RU-C5; all sample results, including step out sample results have been received. All excavations are below RG's
- Placed crushed recycled concrete in excavations to bridge over encountered groundwater
- Commenced backfill of 10-4 and 10-5 with borrow fill from approved site meeting HPNS backfill criteria (10/18/2013)





## RU-C5 Backfilling



Import of clean backfill for direct placement in RU-C5 (Oct 18, 2013)



Backfill placement in Excavation 10-3, Bldg 134 in background - facing south (Oct 18, 2013)



## RU-C5 (continued)



- Excavation 11-2 is a "Tier 2" excavation with revised Parcel C ROD (Navy 2010) cleanup goals
- Confirmation sample data received for 11-2; all sample results, including step out sample results have been received. All identified COCs are below ROD RGs
- Separate data and figures via email as a follow-up to information provided October 4





## RU-C1 Excavation 22-1



- 22-1 excavation footprint has been completed up to another contractor's RCA that overlaps the southwest portion of the footprint. All initial samples have been collected and results received. Step-outs have been taken as accessible.
  - Oily material at corner of Bldg 214 and 231 remains to be addressed



TPH observed

Panoramic view of Excavation 22-1 facing east – September, 2013

Hunters Point Naval Shipyard BCT Meeting – October 24, 2013



## RU-C4



- 2,820 bcy excavated as of 10/17 (planned 3,398 bcy)
- All accessible excavations within RU-C4 have been excavated and sampled (results pending)
- Encountered bedrock in several excavations - depths and horizontal boundaries were adjusted
- Three excavations are still in other contractor's RCA – to be completed once area is radiologically down-posted
- One excavation area within Excavation 23-1 (labeled 23-1E) exhibited noticeable TPH coming from sidewalls and bottom of excavation

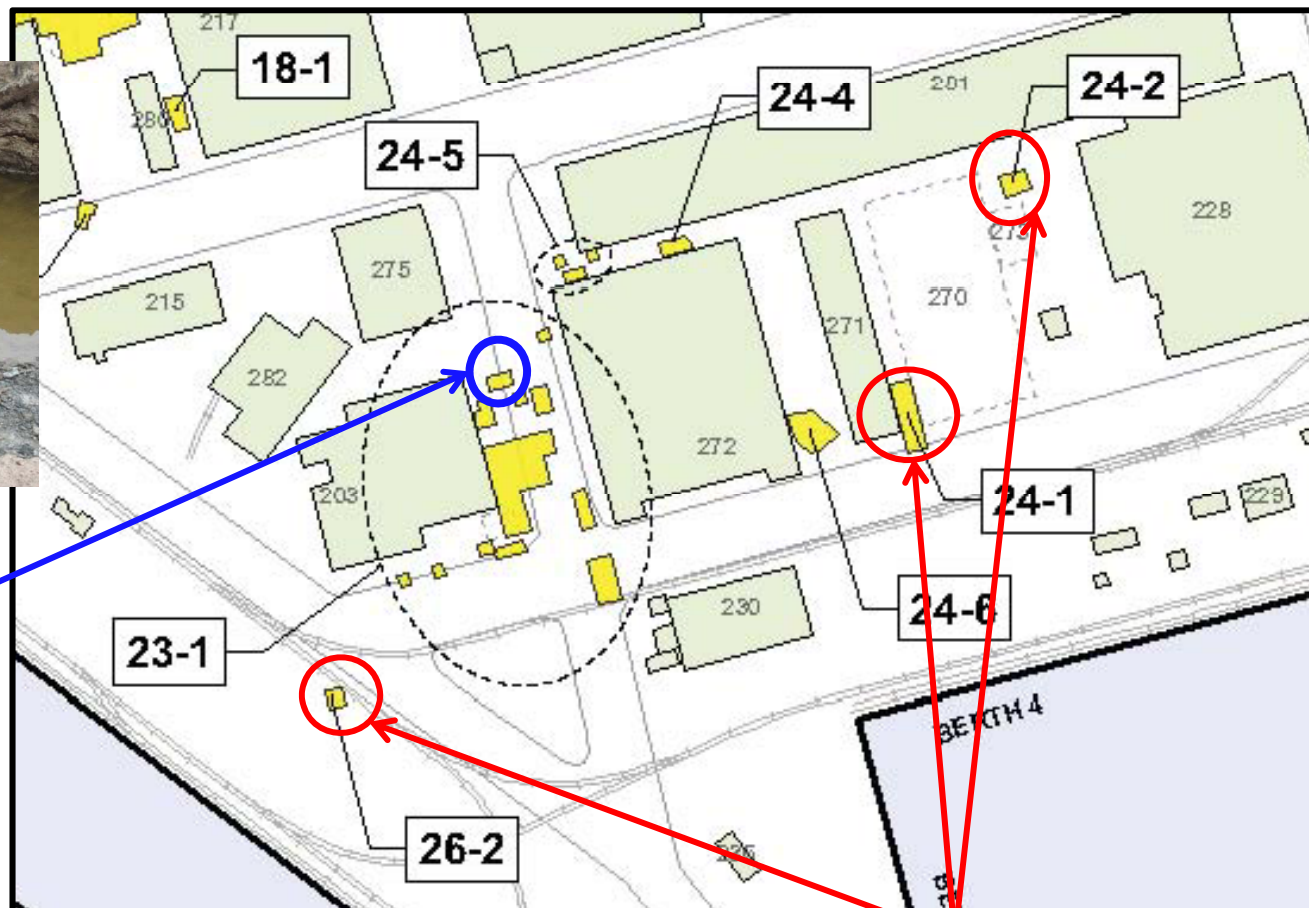




## RU-C4 (continued)



Excavation 23-1E  
with noticeable TPH



Areas behind RCA fence



## RU-C4 and Building 241



Solid bedrock



Excavation CMI-1 with concrete structures and bedrock, facing east (Oct 8)

Building 241



Completed Excavation 18-3 – facing west (Oct 21)



## Building 241



- 3,160 bcy excavated as of 10/17 (planned 3,046 bcy)
- All excavations have been excavated to their original footprint and samples have been collected. All samples came back below RGs
- Bedrock was encountered when excavating 18-3 (anticipated) and CMI-1
- Backfill placement planned for 18-1 and 18-3





## Parcel C Groundwater Remedy Summary



- Wells decommissioned in RU-C1 in excavation 22-1:
  - IR28MW129A (well decommissioned by drillout);
  - IR28MW155A (well decommissioned by pressure grout); IR28MW308A (well decommissioned by drillout)
- Wells decommissioned in RU-C5:
  - 20 wells of various diameters and depths including soil vapor, shallow heating, deep heating, and temperature monitoring wells. All 20 wells pressure grouted
- Wells decommissioned in Building 241:
  - IR30MW02F (well was partially decommissioned, well tagged, cleared of loose debris and pressure grouted)
- Nine soil vapor points installed in SVE Plume 3
- Eleven soil vapor points installed in SVE Plume 8
- 32 vapor extraction and four vapor monitoring wells installed in SVE Area 1
- Five vapor extraction wells and two vapor monitoring wells installed in SVE Area 6





## Parcel C Groundwater Remedy Summary (continued)



- Three vapor extraction wells and one vapor monitoring wells installed in SVE Area 7
- 27 vapor extraction wells and two vapor monitoring wells installed in SVE Area 7
- Nine groundwater monitoring wells have been installed:
  - Plume C1-1 (3 monitoring wells installed and developed)
  - Plume C1-2 (1 of 2 monitoring well installed and developed)
  - Plume C1-4 (2 monitoring wells installed and developed)
  - Plume C4-1 (2 monitoring wells installed and developed)
  - Plume C5-1 (1 monitoring well installed)
- Groundwater monitoring well sampled as part of pre-characterization of plume C1-5 (IR28MW170A) (August 27, 2013)



# Parcel C Groundwater Remedy



Driller setting up in SVE Area 8 (Oct 7)



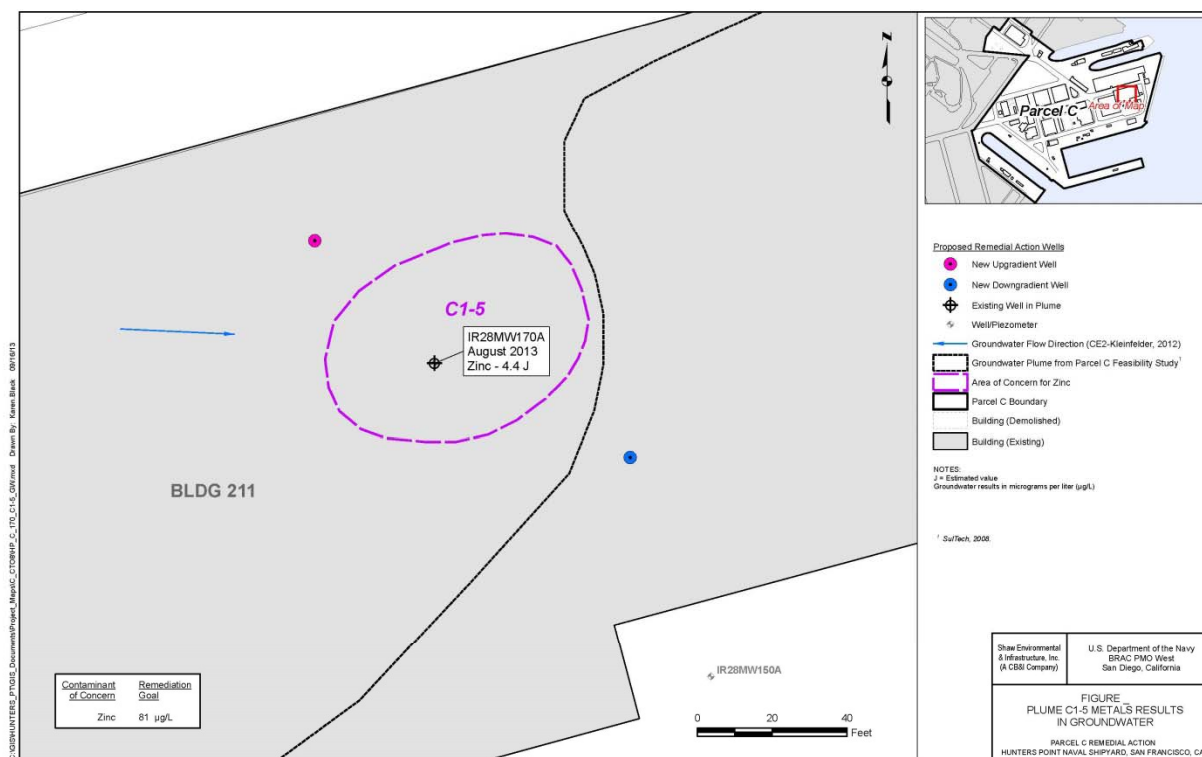
Soil vapor extraction point in SVE Area 8 (Oct 7)



## Plume C1-5 (Zinc)

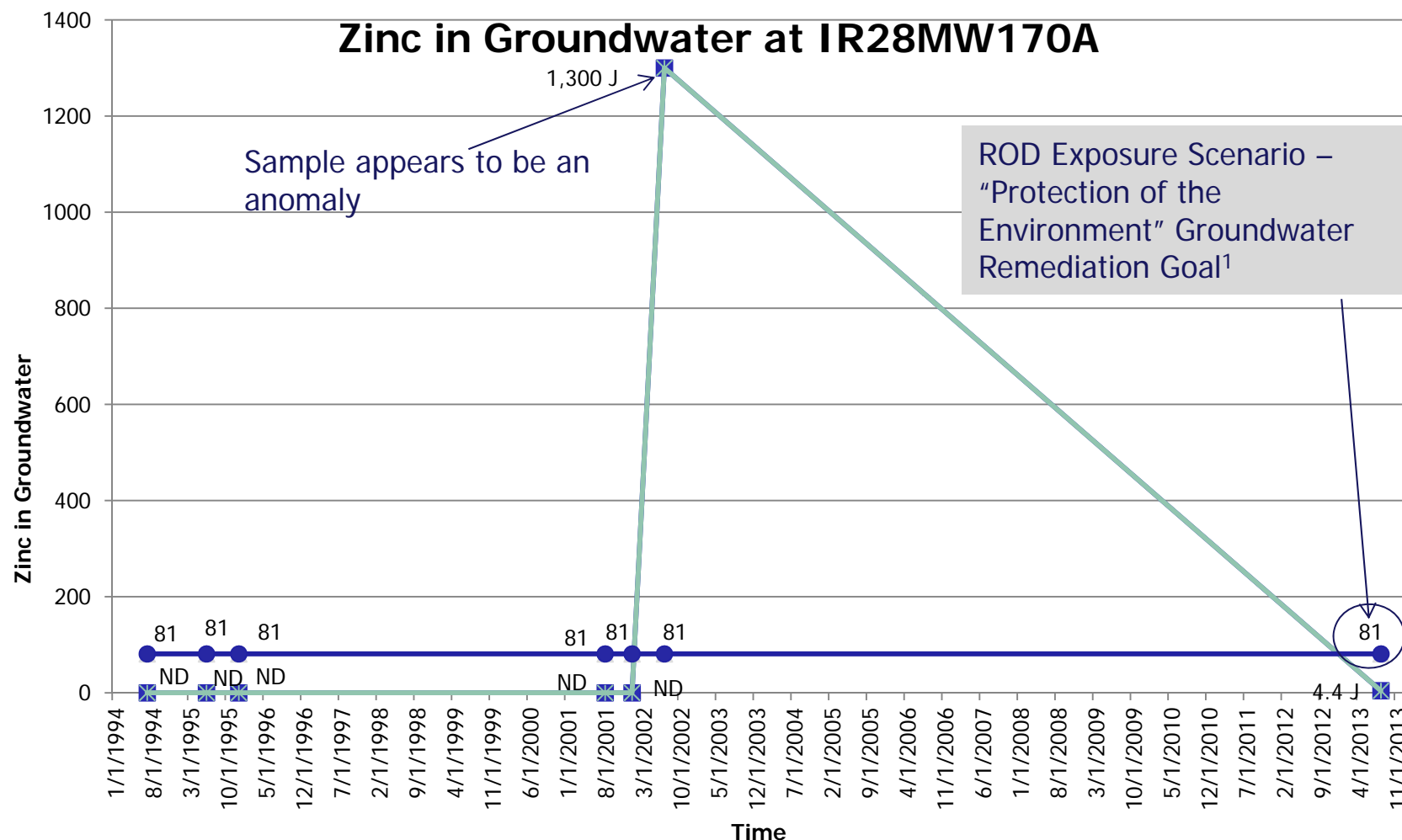


- Parcel C FS (Sultech, 2008; Parcel C FS) identified elevated zinc (1,300 ug/L) at well IR28MW170A and recommended the plume be remediated by anaerobic bioremediation
- Parcel C RD identified the plume as C1-5
- Well IR28MW170A was recently sampled as part of the remedial action plume characterization for zinc (August 2013)





## Sample Results for Zinc in Groundwater – IR28MW170A (Plume C1-5)



<sup>1</sup> Notes in ROD for Parcel C, Table 4: Protection of the Environment prevents or minimizes discharge that would be above the specified remediation goals; specific trigger levels are developed for each plume. Groundwater remediation goals for chromium VI and zinc are at the point of discharge to the bay.





## C1-5 Summary and Recommendation



- The only historical sample containing zinc above the Parcel C ROD Remediation Goal and surface water quality criteria appears to have been an anomaly
- The validation report did not include validation of sample ID 0228E019, collected on 7/11/02
- Historic and recent filtered groundwater sample shows zinc below the RG and surface water quality criteria
- The anomalous high result was not validated and is not representative of the groundwater of that area or concentration trends.
- **Recommend removal of Plume C1-5 from areas requiring remediation**



## What's Next



- Continue identifying and conducting step-out locations in RU-C1 and RU-C4
- Continue backfilling of excavations that meet cleanup goals (started in RU-C5 (excluding Excavation 11-2) and Building 241 area to follow)
- Waste characterization sampling of waste for future T&D (by another contractor)
- Complete well installation
- SVE system installation



## Schedule



Activity	Date
Complete Excavation of RU-C4 and Over-excavations As Needed	September – October 2013
Import Clean Backfill	October 2013
Placement of Backfill and Site Restoration	October – November 2013
Continue Concrete Coring and Well Install	September – November 2013
SVE System Assembly and Install	October – December 2013
Baseline Groundwater Sampling	November 2013
Remedial Injection Bio and ZVI	December 2013/January 2014
Post-injection Groundwater Sampling	(est.) March 2014